



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,585	01/24/2002	Masayuki Naya	Q66584	3468

7590 01/11/2005

SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, NW
Washington, DC 20037-3213

EXAMINER

CHIN, CHRISTOPHER L

ART UNIT	PAPER NUMBER
----------	--------------

1641

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/053,585	Applicant(s) NAYA ET AL.	
	Examiner Christopher L. Chin	Art Unit 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-13 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1641

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I – claims 1-12 in the reply filed on 10/29/04 is acknowledged.

Claim 13 is withdrawn from consideration.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of U.S. Patent No. 6,597,456 in view of Natsuume et al.

Patent 6,597,456 claims a measuring chip for a surface plasmon resonance sensor comprising:

a dielectric block;

a metal film layer which is formed on a first face of the dielectric block and is brought into contact with a sample;

a light source which emits a light beam;

an optical system which causes the light beam to enter the dielectric block through a second face thereof so that the light beam is reflected in total internal reflection at the interface of the dielectric block and the metal film layer and so that various angles of incidence of the light beam to the interface of the dielectric block and the metal film are obtained;

photodetector means thereof; and

a sample holder mechanism for holding the sample on the metal film layer;

wherein the dielectric block of the measuring chip comprises all the first to third faces and the metal film layer integrally formed on the first face of the dielectric block; and

wherein the sample holder mechanism comprises a member which defines above the metal film layer a space which has closed side walls and is flared upward.

Patent '456 differs from the instant invention in not reciting that the dielectric block is composed of a synthetic resin.

Natsuume et al (Materials Research Society Symposium Proceedings ..., vol. 150, April 25, 1989, pages 245-250, XP009007850) discloses a polyolefin polymer material for optical uses. The polyolefin polymer material has high transmittance properties (page 250).

Art Unit: 1641

It would have been obvious to one of ordinary skill in the art to use the polyolefin polymer material of Natsuume et al in the dielectric block of patent '456 because the polyolefin polymer material of Natsuume et al provides the advantage of high transmittance properties to support the light beam entering the dielectric block. Since the dielectric block of patent '456, as modified by Natsuume et al, is composed of the same material as the instantly claimed dielectric block, it will possess the same properties, i.e. the intensities of s-polarized component is 50% or less (30% or less and 10% or less). Also the open "comprising" language of the instant claims does not exclude the additional components in the measuring chip of the '456 patent.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Naya et al.

Naya et al (US Patent 6,611,367) disclose a surface plasmon optical modulator element. The element comprises a dielectric block disposed so that light to be modulated travels through the interior of the dielectric block and impinges upon one

Art Unit: 1641

surface thereof at an angle of total reflection, a metal film formed on one surface of the dielectric block, a photofunctional film formed on the metal film, and an oxygen cut film formed on the photofunctional film (Col. 3, lines 29-60). It is preferred when the light to be modulated is linearly polarized light that the dielectric material block be positioned so that the light to be modulated impinges upon said one surface in the form of P-polarized light (Col. 4, lines 22-25). The metal film is formed of a metal which satisfies the condition that surface plasmon resonance is generated. The metal can be gold, silver, copper, or aluminum (Col. 5, lines 56-66). The dielectric block can be composed of high refractive index glass or polycarbonate (i.e. a synthetic resin) (Col. 4, lines 26-42).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Batchelder et al in view of Natsuume et al.

Batchelder et al (US Patent 4,844,613) disclose an optical sensor device comprising a transparent prism (11) made of glass, microscope slide or cover slip (12), and a thin layer of gold (14) (see Figure 1). A layer of antibodies is supported on the layer of gold (Col. 2, lines 18-64).

The optical sensor device of Batchelder et al differs from the instant invention in not using a synthetic resin such as polymethylmethacrylate in transparent prism (11).

Natsuume et al (Materials Research Society Symposium Proceedings ..., vol. 150, April 25, 1989, pages 245-250, XP009007850) discloses a polyolefin polymer material called Zeonex for optical uses. The polyolefin polymer material has high transmittance properties (page 250) and other advantageous properties over glass (page 245).

It would have been obvious to one of ordinary skill in the art to substitute the polyolefin polymer material of Natsuume et al for glass in the prism (11) of Batchelder et al's optical sensor device because the polyolefin polymer material of Natsuume et al exhibits optical properties that are advantageous over glass and thus would enhance the optical properties of the sensor device.

Since the prism (11), as modified by Natsuume et al, is composed of the same material as the instantly claimed dielectric block, it will possess the same properties, i.e. the intensities of s-polarized component is 50% or less (30% or less and 10% or less).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher L. Chin whose telephone number is (571) 272-0815. The examiner can normally be reached on Monday-Thursday.

Art Unit: 1641

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Christopher L. Chin
Primary Examiner
Art Unit 1641

1/8/05